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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/021,917	12/13/2001	John M. Bergstrom	426882001600	2229

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EXAMINER

COLON, CATHERINE M

ART UNIT PAPER NUMBER

3623

DATE MAILED: 02/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/021,917

Applicant(s)

BERGSTROM, JOHN M.

Examiner

C. Michelle Colon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 01 December 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-54 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-54 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

### **DETAILED ACTION**

1. The following is a Non-Final Office Action in response to the communication received on December 1, 2004. Claims 1, 11 and 24 have been amended. Claim 54 has been added. Claims 1-54 are now pending in this application.

#### ***Response to Amendment***

2. Applicant's amendments to claims 1, 11 and 24 are acknowledged. However, the amendments are insufficient to overcome the 35 U.S.C. 101 technological arts rejection since the amendment is considered a nominal recitation occurring in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150, 152, 88 USPQ 478, 481 (CCPA 1951). Therefore, the 35 U.S.C. 101 technological arts rejection is maintained. Examiner suggests placing technology recitations in the body of the claim to overcome the 35 U.S.C. 101 technological arts rejection.

#### ***Response to Arguments***

3. Applicant's arguments regarding the 35 U.S.C. 112, 2<sup>nd</sup> paragraph rejection set forth in the previous Office Action have been found persuasive. Therefore, the 35 U.S.C. 112, 2<sup>nd</sup> paragraph rejections are withdrawn.

Additionally, Applicant's arguments with regard to Dietrich et al. are moot in view of the new grounds of rejection provided below.

***Claim Rejections - 35 USC § 101***

4. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 1-33 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The basis of this rejection is set forth in a two-prong test of:

- (1) whether the invention is within the technological arts; and
- (2) whether the invention produces a useful, concrete, and tangible result.

As per the first prong of the test, for a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract (i.e., abstract idea, law of nature, natural phenomena) that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" (i.e., the physical sciences as opposed to social sciences) and therefore are found to be non-statutory subject matter. For a process claim to be satisfactory, the recited process must somehow apply, involve, use, or advance the technological arts.

In the present case, the steps of method claims 1-33 merely recite determining allocations in a business operation to maximize profit; however, none of the steps apply, involve, use, or advance the technological arts since all of the recited steps can be

performed in person or by use of a pencil and paper and without the need of a computer or other technology.

As per the second prong of the test, for a claimed invention to be statutory, the claimed invention must produce a useful, concrete, and tangible result. In the present case, the claimed invention determines allocations by solving a mathematical problem (i.e., concrete) to maximize profits (i.e., useful and tangible).

Although the recited process produces a useful, concrete, and tangible result, since the claimed invention, as a whole, is not within the technological arts as explained above, claims 1-33 are directed to non-statutory subject matter.

### ***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1-54 are rejected under 35 U.S.C. 102(b) as being anticipated by Zoltners et al., "Integer Programming Models for Sales Resource Allocation" (March 1980).

As per claim 1, Zoltners et al. discloses a method of determining allocations in a business operation to maximize profit on a computer system, comprising:

collecting profit data for a plurality of classes in the business operation, each class including an allocation having a cost function, and each allocation belonging to the group consisting of physical allocations and economic allocations (page 1, paragraph 2;

page 2, paragraphs 1 and 2; Table 1 on pages 3 and 4; page 9, last paragraph; The reference discloses allocating sales resources such as sales budgets, sales calls, sales reps, etc., among various sales entities (i.e., classes) such as sales districts, accounts, prospects, products, etc., where the allocations are made based on expected profit results and cost data for each sales entity. The expected profit and cost are subjective data input by the user. The allocations are physical (i.e., geographic regions) as well as economic (i.e., sales budgets.);

determining profit functions for the allocations from the profit data (page 2, paragraph 2; function  $F(X)$  on page 8; Profit response functions are determined based on the sales response function and cost data.);

formulating a Multiple Choice Knapsack Problem to maximize profit from the profit functions, the cost functions, and a cost constraint ((M1) on page 9; (M3) on page 11; M1 and M3 are Multiple Choice Knapsack models that maximize the profit based on various resource allocations and cost constraints.); and

solving the Multiple Choice Knapsack Problem to determine values for the allocations (the illustrated applications on pages 9 and 10; The Multiple Choice Knapsack model is solved for various sales resource allocation strategies such as sales representative time management and sales force resource allocation.).

As per claim 2, Zoltners et al. discloses a method according to claim 1, wherein determining the profit functions includes: determining demand distributions for the allocations from the profit data and determining each profit function from a corresponding demand distribution (page 11; Model (M3) determines demand

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distributions (i.e., expected and minimum sales volume,  $s$  and  $S$ , respectively) associated with each resource allocation strategy.).

As per claims 3 and 4, Zoltners et al. discloses a method according to claim 2, wherein each demand distribution includes a Poisson model or a Markov model (row 4 on page 3; row 2 on page 4; The reference discloses using both Poisson and Markov models in its sales resource allocation strategies.).

As per claim 5, Zoltners et al. discloses a method according to claim 2, wherein each demand distribution includes a normal distribution model (paragraph 2, page 2; row 5 on page 5; The reference discloses applying concave functions, also known as bell-curve and normal distribution models to its resource allocation strategies.).

As per claim 6, Zoltners et al. discloses a method according to claim 1, wherein the allocations include spatial allotments (paragraph 1, page 2; sales representative time management and sales force resource allocation on pages 9 and 10; The reference discloses spatial allotments such as deciding how to allocate time to sales representatives or products across sales territories.).

As per claim 7, Zoltners et al. discloses a method according to claim 1, wherein the allocations include monetary allotments (paragraph 2, page 1; paragraph 2, page 18; The reference discloses the decision of allocating sales budgets across products and/or markets.).

As per claims 8-10, Zoltners et al. discloses a method according to claim 1, wherein the cost constraint is a greater-than-or-equal-to inequality constraint, an equality constraint or a less-than-or-equal-to inequality constraint (page 11; Model (M3)

illustrates equality, greater-than-or-equal-to and less-than-or-equal-to inequality constraints.).

As per claim 54, Zoltners et al. discloses the method of claim 2, wherein determining demand distributions for the allocations from the profit data comprises: modeling the demand distributions with corresponding probabilistic functions (row 1 on page 5; The reference discloses applying probability estimates to the resource allocation strategies.).

Claims 11-53 recite substantially similar limitations to claims 1-10 and 54 above. Therefore, claims 11-53 are rejected on the same basis as claims 1-10 and 54 above.

### ***Conclusion***

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Kalyan et al. (U.S. 6,826,538) discusses planning purchases to optimize revenue; and
- Bultez et al., "SH.A.R.P. : SHELF ALOCATION FOR RETAILERS' PROFIT," Marketing Science, Summer 1988 [retrieved from Proquest], discusses applying various models to maximize profit in a retail setting.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to C. Michelle Colon whose telephone number is 703-605-



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4251. The examiner can normally be reached Monday – Friday from 8:30am to 5:30pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tariq Hafiz, can be reached at 703-305-9643.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-1113.

Any response to this action should be mailed to:

***Commissioner of Patents and Trademarks***

***Washington D.C. 20231***

or faxed to:

703-872-9306	[Official Communications; including After Final communications labeled "Box AF"]
703-746-7202	[For status inquiries, draft communication, labeled "Proposed" or "Draft"]

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA 7<sup>th</sup> floor receptionist.

  
cmc

February 8, 2005

  
TARIQ R. HAFIZ  
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